

REMARKS

The Office Action dated November 7, 2005, has been received and carefully noted. The following remarks are being submitted as a full and complete response thereto. The Applicants respectfully request reconsideration of this application in view of the following remarks.

By this response, no claims have been amended. Thus, claims 1-10 are currently pending in the application and subject to examination.

Allowable Subject Matter

As a preliminary matter, the Applicants would like to thank the Examiner for indicating that claims 6-10 are allowed.

The Applicants would further like to thank the Examiner for indicating that claims 3 and 4 contain allowable subject matter and would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

In the Title

The Title is objected to for not being descriptive of the invention to which the elected claims are directed. Applicants have amended the Title responsive to the objection. Applicants thus respectfully request withdrawal of the objection.

Rejection Under 35 U.S.C. § 103(a)

Claims 1, 2 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yahata et al. (U.S. Patent No. 6,625,079, hereinafter "Yahata"), and Lazar (U.S. Patent No. 6,771,554). Applicants respectfully traverse the rejection.

Claim 1 recites a semiconductor memory comprising a memory core having a plurality of memory cells, a bit line connected to the memory cells, and a sense amplifier connected to the bit line, a command control circuit for outputting an access request signal for accessing the memory cells in response to an access request supplied through a command terminal, a refresh timer for generating an internal refresh request at predetermined cycles, an arbiter for determining order of precedence between an access operation corresponding to the access request and a refresh operation corresponding to the internal refresh request when a conflict occurs between the access request and the internal refresh request, and for sequentially outputting a refresh control signal and an access control signal in accordance with the order of precedence, an operation control circuit for making the memory core perform an access operation in response to the access control signal, and making the memory core perform a refresh operation in response to the refresh control signal, and a detecting circuit for outputting a detection signal indicating that the refresh operation is yet to be performed when a new internal refresh request occurs before the refresh operation corresponding to the internal refresh request is performed, the detecting circuit operating in a test mode.

The Applicants respectfully submit that the cited prior art fails to disclose or suggest all the elements of independent claim 1. Specifically, the cited prior art fails to teach or suggest, "outputting a detection signal indicating that the refresh operation is yet to be performed when a new internal refresh request occurs before the refresh operation is performed."

The Office Action admits that Yahata fails to disclose or suggest this feature of claim 1. The Office Action cites Lazar as curing this deficiency. However, Lazar merely discloses a testing technique to evaluate the delay in external access cycles by internal refresh cycles. In contrast to the invention of claim 1, in the test mode in Lazar, the normal refresh request *set_ref_rq_b* is masked, and the refresh request *set_ref_rq* is generated synchronously with the detection signal *addr_stable* (the access request) of the ATD circuit (see Lazar, col. 6, lines 8-14, and Figs. 2 and 4). As a result, the “new internal refresh request” cannot occur before the “said refresh operation corresponding to said internal refresh request corresponding to said internal refresh request is performed,” as set forth in claim 1. In contrast, Lazar teaches that “a refresh cycle automatically occurs prior to any external access cycle” (see Lazar, col. 1, lines 43-45, and col. 6, lines 7-8).

As such, Yahata and Lazar, alone or in any combination thereof, fail to disclose or suggest all the elements of claim 1. Further, the cited prior art fails to suggest any method of modifying the references to include all the elements of claim 1.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.03. For at least the reasons provided above, Applicants submit that Yahata in view of Lazar, either alone or in combination, do not disclose or suggest all the elements of claim 1.

For at least the reasons outlined above, Applicants submit that claim 1, as amended, is allowable over the cited prior art. As claim 1 is allowable, Applicants submit that claims 2 and 5, which depend from independent claim 1, are likewise allowable over

the cited prior art for at least the same reasons as claim 1 is allowable, as well as for the additional subject matter recited therein.

Under U.S. patent practice, the U.S. Patent and Trademark Office has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the U.S. Patent and Trademark Office itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under 35 U.S.C. §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The U.S. Patent and Trademark Office can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

The Office Action restates the advantages of the present invention to justify the combination of references. There is, however, nothing in the applied references to evidence the desirability of these advantages in the disclosed structure.

Thus, the Applicants submit that a *prima facie* case of obviousness has not been established. Applicants respectfully request withdrawal of the rejection.

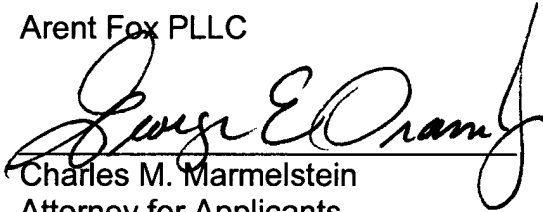
Conclusion

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event that this paper is not considered to be timely filed, an appropriate extension of time is requested. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account Number 01-2300, referencing Docket Number 108397-00110.

Respectfully submitted,

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